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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,944	01/23/2004	Rajiv Laroia	Flarion-69APP (94)	5067
26479	7590	08/21/2007		
STRAUB & POKOTYLO 620 TINTON AVENUE BLDG. B, 2ND FLOOR TINTON FALLS, NJ 07724			EXAMINER TRAN, PHUC H	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			08/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,944

Applicant(s)

LAROIA ET AL.

Examiner

PHUC H. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-31 and 37-67 is/are allowed.
- 6) ☒ Claim(s) 32 is/are rejected.
- 7) ☒ Claim(s) 33-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/22/05.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because all blocks in figure 5, 6, 7, and 16-18 should be labeled with descriptive legends. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Objections

3. Claims 1-36 and 43 are objected to under 37 C.F.R. 1.75 because of the following formalities:

In claim 1 line 6 and 12, "signals" seem to refer back to "signals" recited at line 3. If this is true; it is suggested to change "signal" to --- the signals ---.

The same is true with the terms "a plurality of different communications channels", "communications channels" and "channel quality reports" recited in claim 9; "signals" recited in claim 21 lines 7 and 17, claim 23 line 5, claim 29 line 10, claim 32 line 11, and claim 43 line 3.

Claims 2,3-8,10-20,21,22,24-28,30-31, and 33-35 are objected since they depend from claim 1 or claim 29 or claim 32.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6, 8, and 29-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claim 6 line 2, "said first wireless terminal channel " has no antecedent basis. The same is true with the term "said first wireless terminal" and " the first wireless terminal" recited in claim 29.

Regarding claim 8 line 1, “ said at least one channel quality report” lacks antecedent basis since it is not known what said at least one channel quality report applicant is referring to.

Claims 30-31 are rejected since they depend from 29.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 32 is rejected under 35 U.S.C. 102(e) as being anticipated by Walton et al. (7,042,856).

-With respect to claim 32, Walton et al. disclose a method and apparatus for controlling unlink transmissions of a wireless communication system comprising:

a first cell (see box 102a in Figure 1)including a first base station(see box 104a in Figure 1)-and at least a first wireless terminal(see box 103 in Figure 1), the method comprising operating the first base station to transmit signals on a plurality of different communications channels(see paragraph 12 lines 1-2), wherein the plurality of different communications channels includes at least 3 different communications channels, the three different communications channels including a first communications channel, a second communications channel and a

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third communications channel, each individual one of the plurality of different communications channels each having a physical characteristic which is detectable by the first wireless terminal (see paragraph 12 lines 6-7); and selecting between the plurality of different communications channels (see paragraph 162 lines 2-5) for purposes of transmitting signals to the first wireless terminal in response to feedback information (see paragraph 214 lines 1-2 and paragraph 167 lines 6-7) received from the first wireless terminal indicating the one of the plurality of different communications channels which provides the best transmission channel conditions for transmissions to the first wireless terminal at a particular point in time (see paragraph 167 lines 6-7).

Allowable Subject Matter

7. Claims 6, 8, and 29-31 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. Claims 33-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 1-28, and 37-67 are allowed.

For claims 1-28, the prior art fails to teach a combination of: for periodically changing at least one signal transmission characteristic of a first communications channel in the plurality of communications channels to introduce an intentional variation into the first communications channel which results in a change in the physical characteristic corresponding to the first communications channel.

For claim 29-31, the prior art fails to teach a combination of a control module for periodically changing at least one signal transmission characteristic of a first communications channel in the plurality of communications channels to introduce an intentional variation into the first communications channel which results in a change in the physical characteristic corresponding to the first communications channel.

For claims 37-42, the prior art fails to teach a combination of: Maintaining channel quality estimates for at least two of the communications channels at the same time; and communicating channel quality feedback information to the base station indicative of which one of the plurality of different communications channels has the best quality for use in transmitting signals to the wireless terminal.

For claims 44-46, the prior art fails to teach a combination of: Each communications channel having at least one different physical characteristic, the at least one different physical characteristic of one of the communications channels being intentionally varied by the base station over time, the wireless terminal comprising: means for making a channel quality measurements of each of the communications channels; memory including channel quality estimates for at least two of the communications channels at the same time.

For claims 47-54 and 67, the prior art fails to teach combinations of: Processing a first signal as a function of at least one coefficient in a first transmission control coefficient set corresponding to a first channel to produce a first processed signal having a first physical signal characteristic; transmitting the first processed signal from at least one of the multiple antennas; transmitting at least one other signal corresponding to the first signal, in parallel with the transmission of the first processed signal, from another one of the multiple antennas;

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processing a second signal as a function of at least one coefficient in a second transmission control coefficient set corresponding to a second channel to produce a second processed signal, the second processed signal having a second physical signal characteristic introduced by the processing which is different from the first physical signal characteristic; transmitting the second processed signal from at least one of the multiple antennas.

For claims 55-66, the prior art fails to teach a combination of: Maintaining for each channel a transmission control coefficient set including at least one transmission control coefficient used to control at least one of the different transmission characteristics; receiving channel condition feedback information from at least one wireless terminals at a first rate; changing, at a second rate, the content of each set of transmission control coefficients over time to induce transmission variations into the signals transmitted using each of the maintained channels, and scheduling transmissions to individual wireless terminals using the channels as a function of received channel condition information.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Walton et al. (7,042,856) and Walton (US2003/0013451) are all cited to show systems which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUC H. TRAN whose telephone number is (571) 272-3172. The examiner can normally be reached on M-F (8-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHI PHAM can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuc Tran
Assistant Examiner
Art Unit 2616

P.t
8/16/07

A handwritten signature in black ink, appearing to read 'W. Chin', with a long horizontal flourish extending to the right.

WELLINGTON CHIN
ASSISTANT PATENT EXAMINER